

## REMARKS

In response to the Pre-Interview Communication dated August 16, 2010, and in view of the amendments and following remarks, Applicants respectfully request reconsideration of the pending claims and withdrawal of the rejections to the claims.

Upon entry of the amendments, Claims 1-7, 9-11, 39-40, 42, 45-49, 51-52 are present for examination. Claims 1, 3, 4, 7, 9-11, 39-40, 42, 45- 49 and 51 are currently amended; claims 2, 5-6 are original; and claim 52 is newly added.

Applicants submit that currently the number of independent claims is 3 and the total number of the claims is 20. The requirement of the ENHANCED PILOT PROGRAM is fulfilled.

Applicants submit that no new matter is added to the application by way of the currently amendment to the claims.

### **Claim Rejections under 35 U.S.C. 103**

*Claims 1-11, 39-40, 42, 45-47 and 51 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat Pub. 2006/0013167 (hereafter “Wheatley”) in view of U.S. Pat. No. 6,058,317 (hereafter “Posti”).*

*Claims 48-49 are rejected under 35 U.S.C. §103(a) as being unpatentable over Wheatley, Posti, and further in view of U.S. Pat. No. 7,684,435 (hereafter “Kim”).*

Applicants respectfully traverse the above 35 U.S.C. §103(a) rejections of all the pending claims. Applicants submit that a *prima facie* case of obviousness is not established for at least the reason that the cited art, whether taken alone or in combination, fails to teach or suggest every element recited in amended independent claims 1 and 39.

Claim 1, as amended, recites a distributed base band system that comprises:

*a first base band unit (BBU) in communication with a Radio Frequency unit (RFU);*

*wherein the first BBU comprises:*

*a main processing unit;  
a clock unit;  
a base band signal processing unit;*

*a transmission unit; and  
an interface unit;  
wherein the interface unit is configured to:  
intercommunicate digital base band signals with the base band signal processing unit; and  
intercommunicate master control information with the main processing unit;  
wherein the interface unit comprises a primary base band Radio Frequency (RF) interface;  
wherein the RFU comprises a secondary base band RF interface and the RFU is connected to the primary base band RF interface of the BBU;  
wherein the distributed base station system further comprises at least a second BBU; and  
wherein the interface unit of the first BBU further comprises a capacity expansion interface, configured to communicate with the second BBU.*

Wheatley relates to a slow fast programming method for efficient remote field update in distributed base stations. Wheatley (abstract) applies programming data at two clock frequencies to overcome significant fiber propagation delay associated with a remote unit.

Specifically, Wheatley (Figure 2, paragraphs 3-7) discloses a distributed base station including a BBU and an RFU, where the BBU consists of controller boards, channel cards, clocking units and fiber interface units. The BBU further includes a test bus and a system bus. The RFU consists of a radio card and a fiber interface adapter. The BBU and the RFU are connected via a long single-bit fiber cable. In an urban environment, multiple BBUs can be deployed at a company maintenance facility, while multiple RFUs are deployed miles away and connected to the BBUs via the fiber cable.

Wheatley at most teaches that multiple BBUs can be deployed at a company maintenance facility. In contrast, Wheatley does not disclose that BBUs can be deployed within a distributed base station. It is noted that the Pre-Interview Communication acknowledges that Wheatley is silent about a base band signal processing unit. In addition, Wheatley does not show the intercommunication of master control information between an interface unit and a main processing unit within the BBU. Accordingly, the BBU mentioned by Wheatley is factually different

from the BBU recited in claim 1.

Therefore, in addition to that Wheatley fails to disclose a base band signal processing unit, Wheatley also at least fails to teach or suggest the following features recited in claim 1:

- feature a) *the distributed base station system further comprises a second BBU;*
- and
- feature b) *the interface unit of the first BBU further comprises a capacity expansion interface, configured to communicate with the second BBU.*

In response to the Examiner's citation of Posti and the reasons for the combination of Wheatley and Posti, Applicants respectfully submit that Posti fails to remedy the above-noted deficiencies in Wheatley. Posti (Figure 1) discloses a base station, wherein the base station comprises a central processing unit with at least one baseband frame unit for supplying baseband signals via switching means, to one of at least two radio channel units. Posti (Col. 2, lines 8-67, Col. 3, lines 7-67, and Col. 4, lines 1-28) further shows that the frame unit can be alternatively switched to either one of the radio set units based on momentary capacity. For example, the switching matrix can switch any frame units 1-10 in part or in whole to any radio set units 1-4. However, Posti is silent on that a baseband frame unit can communicate with other baseband frame units, and is also silent on that the baseband frame unit comprises a capacity expansion interface, configured to communicate with another baseband frame unit. Therefore, Posti also fails to teach or suggest the above feature b) of the amended claim 1.

Moreover, the baseband frame unit in Posti (Col. 3, lines 7-22) generates baseband modulation signals for a radio set unit e.g. channel coding, interleaving and placing into TDMA frames, and performs corresponding processes on received frames from the radio set unit. The baseband frame unit does not function exactly as the BBU recited in claim 1, e.g. Posti does not show the intercommunication of master control information between an interface unit and a main processing unit within the BBU. Accordingly, the BBU (i.e. baseband frame unit) disclosed by Posti is factually different from the BBU recited in claim 1.

In summary, Wheatley and Posti, taken alone or in combination, fail to teach or suggest every element recited in claim 1. Therefore, a *prima facie* case of obviousness with respect to claim 1 is not established. It follows that claim 1 is allowable over the references of record.

Claims 2-7, 9-11 and 52 depend from claim 1 and add further limitations. It is respectfully submitted that these claims are allowable over the references of record at least in view of their dependencies on an allowable base claim as well as the additional limitations therein.

Claim 39 recites a BBU and includes limitations similar to those in claim 1. As presented above, neither Wheatley nor Posti teaches or suggests the following feature:

*wherein the interface unit of the BBU further comprises a capacity expansion interface, configured to communicate with another BBU.*

Therefore, it is respectfully submitted that a *prima facie* case of obviousness with respect to independent claim 39 is not established and claim 39 is allowable.

Claims 40, 42, 45-47 and 51 depend from claim 39 and add further limitations. It is respectfully submitted that these claims are also allowable over the references of record at least due to their dependencies on an allowable base claim as well as the additional limitations.

Claims 48-49 depend from claim 39 and add further limitations. Kim (Col. 5, lines 44-51, Figure 3) discloses a GPS unit in a digital modem unit (DMU), but is silent on receiving 2M synchronous clock signals and outputting 10M test synchronous clock signal. Furthermore, Kim (Figures 1 and 3) merely discloses that an Ethernet driver in the DMU can connect to a Remote RF unit hub. In other words, Kim shows that the DMU can connect to multiple Remote RF unit hubs. However, Kim does not show that the DMU as a whole can communicate with other DMUs. Accordingly, Kim fails to teach or suggest the feature:

*wherein the interface unit of the BBU further comprises a capacity expansion interface, configured to communicate with another BBU.*

For at least the reasons outlined above, a combination of Wheatley, Posti and Kim, even if possible, fails to establish a *prima facie* case of obviousness with respect to

dependent claims 48-49. Therefore, Claims 48-49 are allowable.

**Support for the amendments of claims**

With respect to Claim 1, the support at least can be found in Figs. 3 and 9-11.

With respect to Claim 3, the support at least can be found in Fig. 5 and lines 4-5 of page 13.

With respect to Claim 4, the support at least can be found in Fig. 5.

With respect to Claim 7, the support at least can be found in original claims 7 and 8.

With respect to Claim 9, the support at least can be found in claim 9 per se.

With respect to Claim 10, the support at least can be found in claim 10 per se.

With respect to Claim 11, the support at least can be found in Fig.11 and the 3<sup>rd</sup> paragraph of page 23.

With respect to Claim 39, the support at least can be found in Figs. 3 and 9-11.

With respect to Claim 40, the support for correcting a typographical error is out of question.

With respect to Claim 42, the support at least can be found in claim 42 per se.

With respect to Claim 45, the support at least can be found in Fig. 5 and lines 4-5 in page 13.

With respect to Claim 46, the support at least can be found in claim 46 per se.

With respect to Claim 47, the support at least can be found in claim 47 per se.

With respect to Claims 48 and 49, the support for correcting a typographical error is out of question.

With respect to Claims 51 and 52, the support at least can be found in lines 4-8 of page 7, and the last two lines of page 8 to lines 1-3 of page 9.

No new matter has been added by means of the above noted amendments.

**Conclusion**

For at least the foregoing reasons, it is believed that the pending claims 1-7, 9-11, 39-40, 42, 45-49, 51-52 are in proper condition for allowance. A telephone conference

is respectfully requested for expediting the examination of the above-identified patent application.

Respectfully submitted,

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Dated: \_\_\_\_\_

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